

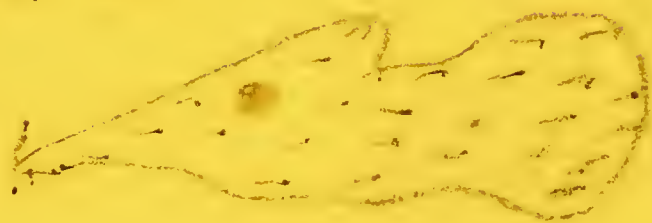
"*Ritina* 1870" NO

WEATHER

LEVEL

No. 119

Oh-bee-dol-bee



DISTANCES FROM SIDE STAKES FOR CROSS-SECTIONING

Roadway of any Width, Side Slopes 1 1/2 to 1

In the figure below, opposite 7 under "Cut or Fill" and under 11.7 the distance out from the side stake at left. Also, opposite 11 under "Cut or Fill" and under 16.7 the distance out from the side stake at right.

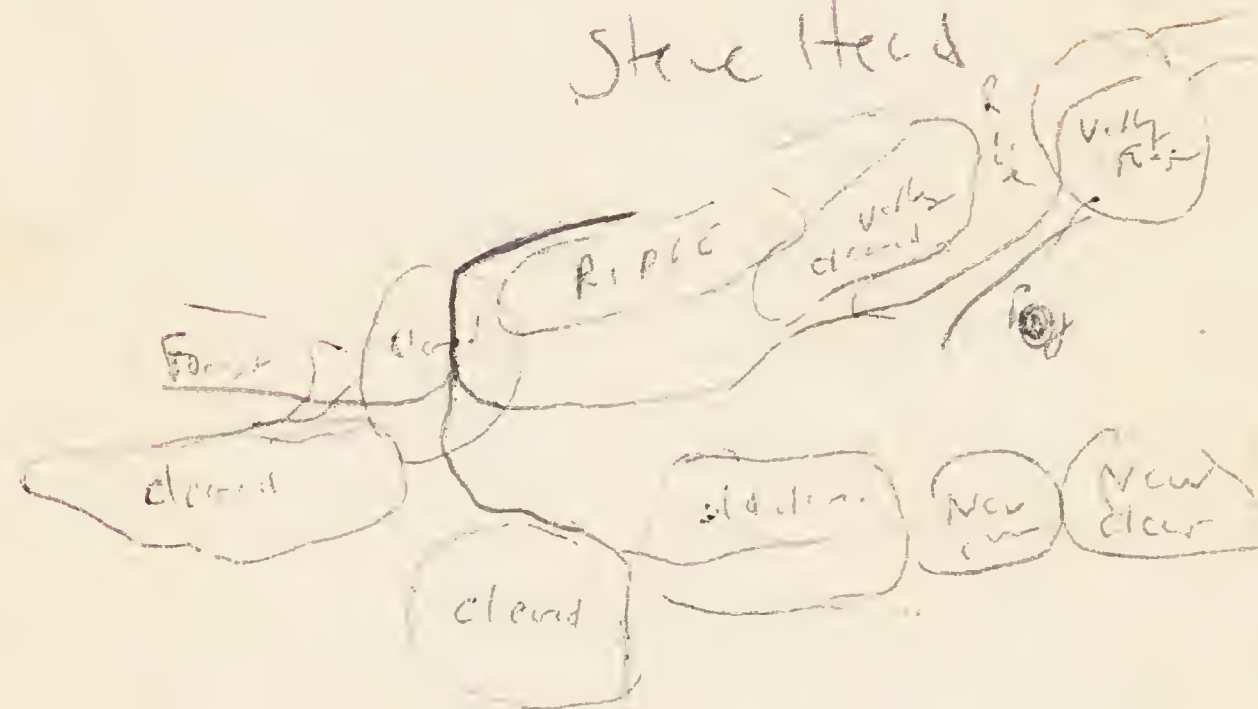


	0	1	2	3	4	5	6	7	8	9	
	Distance out from Side or Shoulder Stake										
0	0.0	0.2	0.3	0.5	0.6	0.8	0.9	1.1	1.2	1.4	0
1	1.5	1.7	1.8	2.0	2.1	2.3	2.4	2.6	2.7	2.9	1
2	3.0	3.2	3.3	3.5	3.6	3.8	3.9	4.1	4.2	4.4	2
3	4.5	4.7	4.8	5.0	5.1	5.3	5.4	5.6	5.7	5.9	3
4	6.0	6.2	6.3	6.5	6.6	6.8	6.9	7.1	7.2	7.4	4
5	7.5	7.7	7.8	8.0	8.1	8.3	8.4	8.6	8.7	8.9	5
6	9.0	9.2	9.3	9.5	9.6	9.8	9.9	10.1	10.2	10.4	6
7	10.5	10.7	10.8	11.0	11.1	11.3	11.4	11.6	11.7	11.9	7
8	12.0	12.2	12.3	12.5	12.6	12.8	12.9	13.1	13.2	13.4	8
9	13.5	13.7	13.8	14.0	14.1	14.3	14.4	14.6	14.7	14.9	9
10	15.0	15.2	15.3	15.5	15.6	15.8	15.9	16.1	16.2	16.4	10
11	16.5	16.7	16.8	17.0	17.1	17.3	17.4	17.6	17.7	17.9	11
12	18.0	18.2	18.3	18.5	18.6	18.8	18.9	19.1	19.2	19.4	12
13	19.5	19.7	19.8	20.0	20.1	20.3	20.4	20.6	20.7	20.9	13
14	21.0	21.2	21.3	21.5	21.6	21.8	21.9	22.1	22.2	22.4	14
15	22.5	22.7	22.8	23.0	23.1	23.3	23.4	23.6	23.7	23.9	15
16	24.0	24.2	24.3	24.5	24.6	24.8	24.9	25.1	25.2	25.4	16
17	25.5	25.7	25.8	26.0	26.1	26.3	26.4	26.6	26.7	26.9	17
18	27.0	27.2	27.3	27.5	27.6	27.8	27.9	28.1	28.2	28.4	18
19	28.5	28.7	28.8	29.0	29.1	29.3	29.4	29.6	29.7	29.9	19
20	30.0	30.2	30.3	30.5	30.6	30.8	30.9	31.1	31.2	31.4	20
21	31.5	31.7	31.8	32.0	32.1	32.3	32.4	32.6	32.7	32.9	21
22	33.0	33.2	33.3	33.5	33.6	33.8	33.9	34.1	34.2	34.4	22
23	34.5	34.7	34.8	35.0	35.1	35.3	35.4	35.6	35.7	35.9	23
24	36.0	36.2	36.3	36.5	36.6	36.8	36.9	37.1	37.2	37.4	24
25	37.5	37.7	37.8	38.0	38.1	38.3	38.4	38.6	38.7	38.9	25
26	39.0	39.2	39.3	39.5	39.6	39.8	39.9	40.1	40.2	40.4	26
27	40.5	40.7	40.8	41.0	41.1	41.3	41.4	41.6	41.7	41.9	27
28	42.0	42.2	42.3	42.5	42.6	42.8	42.9	43.1	43.2	43.4	28
29	43.5	43.7	43.8	44.0	44.1	44.3	44.4	44.6	44.7	44.9	29
30	45.0	45.2	45.3	45.5	45.6	45.8	45.9	46.1	46.2	46.4	30
31	46.5	46.7	46.8	47.0	47.1	47.3	47.4	47.6	47.7	47.9	31
32	48.0	48.2	48.3	48.5	48.6	48.8	48.9	49.1	49.2	49.4	32
33	49.5	49.7	49.8	50.0	50.1	50.3	50.4	50.6	50.7	50.9	33
34	51.0	51.2	51.3	51.5	51.6	51.8	51.9	52.1	52.2	52.4	34
35	52.5	52.7	52.8	53.0	53.1	53.3	53.4	53.6	53.7	53.9	35
36	54.0	54.2	54.3	54.5	54.6	54.8	54.9	55.1	55.2	55.4	36
37	55.5	55.7	55.8	56.0	56.1	56.3	56.4	56.6	56.7	56.9	37
38	57.0	57.2	57.3	57.5	57.6	57.8	57.9	58.1	58.2	58.4	38
39	58.5	58.7	58.8	59.0	59.1	59.3	59.4	59.6	59.7	59.9	39
40	60.0	60.2	60.3	60.5	60.6	60.8	60.9	61.1	61.2	61.4	40

"Brady"

Conbell
Marchambers

Steve Head



"Rite in the Rain"
WEATHERPROOF

a product of

J. L. DARLING CORPORATION
TACOMA, WASHINGTON 98421 U.S.A.

January 4th 1984
Rockland Feeding station
830-1230

Walked down path below House
that turns into an old road bed +
descends through a valley to an old
quarry. $\approx 3\text{km}$?

Road goes through 2nd growth
Limestone forest 30-40' tall.
but much of it is cleared
back from the road.

On the way, back I bushwhacked more -
gotten up on hills. - it was
there I saw the only Worm-eating
Warbler $\approx 25'$ up - but only
briefly as it came in above chipping
to my pishing + left.

Ruddy Quail Dove
White-crowned Pigeon
White-winged Dove
Jamaican Mango
streamer. 1

Jamaican Becard

Long-tailed Kingbird

Greater Antillean Elaenia

Jamaican Woodpecker

~~Red~~ Jamaican White-eye

Arrow-headed Warbler

White-chinned Thrush

Orange-crowned

Jamaican Tody

Jamaican Oriole

Greater Antillean Bullfinch

Saffron Finch

Stripe-necked Tanager

Jamaican Parakeet

Yellow-crowned Elaenia

Caribbean Elaenia

Yellow-faced Grosbeak

Yellow-shouldered Grosbeak

Parula Warbler

4

Brw Warbler

2

American Redstart

2♂ + 3♀

Black-throated Blue Warbler

5♂ + 4♀

Prairie Warbler

2

Worm-eating Warbler

1

- no date

but was alone - interpreted

The Arrow-headed warblers were
in the forest understory - relatively
deliberate (compared to the Elfin
Wood Warbler). I saw one
chuck 5-7 dried leaves - but also
green leaf bottom.

230-530

I hiked back down into
land behind Rockledge. And up a
track to old house sites.

Along road - in forest edge I
saw 2 Arrow-headed warblers, &
1 Black-throated Blue & 2
Yellowthroats.

I hatched along the
forested slope - & saw a
* Warbler - briefly sang & probed into
a hook curled leaf 10' up in 30'
forest (6" long leaf) - it
was solitary.

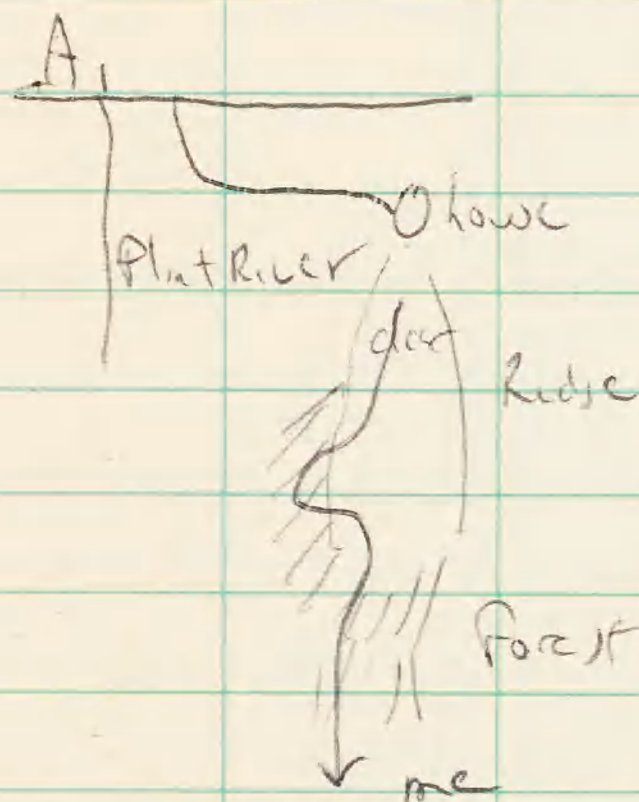
I hiked on Lywood Road &
down the washed out road behind
her house & had little luck.

Arrow-headed warbler was in dense
clustered foliage - it was prying
bill between leaves.

January 5

830-1200

Flint River Estuary



First let me talk about the warblers;
I saw one in a isolated broad
leaf tree ^{10' up} near the edge of the
forest - it was solitary in all
evidence of the bird - it had a
7mm grub in bill. I got know
firmly determined.

The 2nd was well into forest on
ridge top - ~5' up - no foraging date.

Step 1

2 Blue warblers
2 Olive warblers
1 by Redstart
3 ovenbirds

130 - 330 January 5 I
checked out very dry limestone
forest at Nesril along Road beyond
the lighthouse. The "Soil" was
pure limestone bedrock - the trees
mainly microfolias - with some
palmeto undergrowth & occasional
vine-tylers.

Residents included

White-eyed vireo
T. Oriole
Bullfinch
seedeater
S. headed tanager

But mainly there were small mixed
species birds of warblers usually
consisting of Btw, Redstart & Pewee -
a number of ovenbirds were also seen
I warmer (next page).

2nd stop at Nesril Bay lighthouse

Jan 11 25-30 10

but large plants & very
shrubby
few deer here

seen later spent 5 minutes

from a path & saw
Vireo (6) & 2 other birds
all in the same place (same place)
had -

got a number of people

to the lighthouse

in 2 180 sec. observations

low - 10 - 5' up

great except that when
birds were flying & up - but
no actual flying

at the lighthouse, I saw 2 or 3
Redstart - 1000 ft. up

♂ + 2 ♀ Redstarts

Parula ♀

4-8 Brew. warblers

Mont Bon. 11/31 3:30 sun

40 2nd growth insects

60

100

100

100

100

500

100

3mm thin sp. ib

100

100

100

100

1000

60

100

40

200

100

100

13mm thin sp. ib

100

20

50

600

100	2 actup 1b	50
	Ban mark 1b	100
50		100 2mm "mud"
50	2 x 3mm r.b. sp. 1b	50
	4mm green sp. 1b	20
100		2mm sp. 1b
100	4 x 2mm sp. 1b	100
	2 x 1mm honey fly sp. 1b	70 3mm th. sp. 1b
2000		100
100	9mm 1st sp. 1b	50
	3mm th. sp. 1b	20 5 x 2mm honey
100	4mm 1st sp. 1b	2mm mud 1b
	2 x 3mm sp. 1b	
100		
75		
100		
60		
2000		

Morning of Jan 5th continued
 as it rained left. It was
 in association with B+L birds,
 of Redstart & Jamaican L E birds.

Also on this line I had
 3 or so pairs of Arrow-headed
 warblers - which died lat probe
 ~ 50% at the time (all small 4"
 leaves 25-30' up.)

3-4 White-eyed vireos
 Yellow-crowned Elaenia (Forest edge)
 Jamaican Oriole 6
 S. headed Tanager 4
 Bullfinch
 Dove-bird 3-4
 B+L warbler 3-4
 Redstart 20
 Myiophobus 10 in forest
 Gold flycatcher
 B+L flycatcher
 Jamaican Woodpecker 2

100

June 6 830 - 130

50

Windy cool

50

I hiked short cut to the
old Salmon Homestead, then a
second short cut to Anchovy Main

100

Road. I then hiked a road
past secondary school into hills -
but found little accessible forest

100

so I returned to short cut
from Main Road to homestead.

2000

This morning I saw no
wormers at all. I saw 5-6

100-

Ovenbirds 5 B+W warblers, 1 female
2♂ + 2♀ BTB warblers - all warbler

100

solitary (with other species) 2♀
1♂ Redstart (all solitary)

100

♀ Jamaican Becard
several G. Antillean Pewees

75

I worked Hillock tops & slopes
oh yeah - I saw 1 pr of

100


Arrowheaded Warblers - 1 flycatcher x 2

65
25

230-530

I worked slope below
Loyland Road below the
house. One slope has
luxuriant forest - with larger trees &
40-50' canopy (2 dry stream beds) -
wind was up & I saw few
birds. (Ruddy Quail Doves)

I saw 2-3 B+W warblers -
3 Ovenbirds, ♀ BT Blue warbler
Yellowthroat ♂ + Redstart ♂.

10  - lat Live insect (cons-)

5' 10'00 Limestone forest - dry
5' - gully sunny

10 50 2+ 4mm spiders (green) 1b
1mm hump hump 1b

10' 25 3mm yellow + black spider 1b

20' 40 5mm thin spider seen 1b
2mm green spider 1b

10' 30 3mm spider 1b

10' 40 4mm, red spider 1b

10' 95 2mm green hump 1b

20' 75

2/5/5 35 2+ 2mm green spider 1b

35 5mm thin green spider 1b

45

35 2+ 1mm thin green spider 1b

25

500 1mm green spider 1b

100 5mm thin spider 1b

60 2mm spider 1b

50

80

38

50

25 5mm spider 1b
~~2~~ 2mm spiders } 1b
3mm spider }

50 3mm spider 1b

40

100

1200

130 3mm wide hoop lb
 3mm 1st spider lb
 100 2mm black + yellow spider lb
 3mm thin green spider lb
 100 4mm green spider lb
 85
 30 1mm beetle lb
 50 4mm thin black spider lb
 10 2mm black spider on web lb
 100
 15
 1800

50
 70 3mm spider lb
 100 4mm spider lb
 100
 100 3mm spider lb
 100 4mm spider lb
 18.5 3mm spider lb
 100 2 x 3mm spider lb
 2600

Total	Prey	Overland Prey	Loss Prey
32 spiders	19 spiders	0	0
3 homop	1 chrys		
1 beetle			
14/1,000 leaves	8/1,000 leaves		
	95% spiders!		

36
 238/35 = 16
 95% (16)

Live leave census #2
Dry hillside - more undergrowth
smaller leaved trees

12 3mm sp. ✓

60

19 2mm sp. 1b

30

60 2mm sp. 1b

50 ant - 1st - 1b

40 ^{4mm} fly 1b

22

22

40 - 2mm sp. 1b

45

40

60 2mm sp. 1b

520

30

35

50 2mm sp. 1b

20

20

70

35

750

100

60

50

50 27 3mm grey sp. 12

100 3mm waxy long 12
1130

11 50

2 60-leaving? long 12

50 2mm } green sp. 12
3mm }

70

1360

50

100 5mm sticky stem sp. 12

100

200 2mm waxy 12

120

~ 2,000

Dead Leaves - Sample 2

Dry limestone slope - Rockland
Leaf sizes

6" - 2nd	6"	4"	6"
8" cecropia	3"	6"	5"
6" 3rd	3"	5"	4"
7"	3"	5"	4"
7"	6"	5"	5"
7"	4"	4"	4"
3"	4"	5"	5"
6"	5"	5"	5"
8"	4"	4"	4"
8"	3"	4"	4"
8"	6"	6"	(marked)
7"	6"	6"	
4"	4"	5"	
5"	5"	4"	(12mm could be)
8"	3"	4"	
7"	5"	1"	
9"	2"	5"	
3"	3"	4"	
3"	3"	4"	
3"	4"	4"	
2"	6"	4"	
	4"	5"	

Single #

mult

Time

Location

Shot

3 m. back

8

7

0

8-100

6

6

5

8-100

5

6

11

5

3

4

11

4

2

6

2

4

3

4

1

4

1

4

2

4

1

4

5

4

1

8

5

4

1

5

6

4

1

2

6

6

1

2

6

6

1

2

0

6

1

2

3

5

1

10

3

5

1

6

4

4

1

8

4

1

1

6

3

2

1

1

3

1

1

6

3

3

1

5

1

3

1

8

1

3

1

4

1

3

1

2

6

3

1

June 7 warmer breezy in afternoon
Rockland Feeding Station

~~830~~ 630-730, 830-245

I worked wood slope below
to north of station. I
saw few warblers in the woods -
no warblers all day. 2-3 Redstarts,
1 ♂ + 1 ♀ BTB, 2-3 Black + White.
I mostly collected + counted leaves

June 8 - Windsor Caves area
830 - 300.

I hiked trail into Cockpit
country. The trail winds at
the base of the Hilllocks &
eventually up a gorge & along the
side of a Hilllock. Each Hilllock
is tall (several hundred feet)
& steep sloped, with a bedrock
of limestone & limestone talus
making walking very treacherous.
On the slopes of the
Hilllocks was undisturbed
limestone forest - 45-50' - open

understory. Mostly small & medium
size leaves - few disturbed -
few curled leaves.

At the edge of each Hilllock
was a scrub of very vegetation
which covered trees & contained
lots of dead leaves. Here I

Saw most birds including 7
Worm-eating warblers.

The first worm-eater was, in fact,
the first bird I saw ^{30'} but
as usual it disappeared quickly leaving
a Redstart.

The 2nd was bathing in leaf litter
which is a tree - it then moved
into dense & very vegetation to feed
from small dead leaves, as well
as peck at a twig. It was
with D. W. E. Vireo, Redstart
& ~~6~~ Purple Warbler.

The third Worm-eating Warbler
appeared briefly low - 10'
in dense vine tangle at base of
Hilluck.

I climbed a Hilluck & saw
few birds (Tody, Crows, Jimcree
woodpecker).

The trail turned up a gorge
lined on both sides by 40-60'
trees draped in vine vegetation.

In a 1/2 km stretch I
saw 4 worm-eaters. ~~All~~ ^{At least 1}
got foraging data on 3 of them.
(That makes 6 individuals ≈ 27
maneuvers). The wormer probed
into tree crotches by hanging a lot -
even hanging upside down alternative
sites included large clustered leaves
& a yellowed off branch low leaf.

Other birds did not forage as
well. I saw a number of
B+W warblers - at least one
probed into dead leaves when

moving in very dense vines.
I saw a Jimcree woodpecker did not
probe as well.

I saw 2 ♂ BTB
2-3 ♀ BTB
4-5 Parula
6 B+W warblers
5 Yellowthroats
7 wormers
1 other bird.

In addition I saw 2-3 pairs
of Arrow-headed warblers (in
dense vine tangle)

2 Blue Mountain Vireos
2 Chestnut-bellied Cuckoos
Jabbering Crows

I saw a flock of Parrots
flying in.

*

† The last few wormers
were mostly associated with
warbler groups in area.

They surprise me how fast
& actively they forage.

Jan 10 - Hardware Gap, Blue Mtns.

After spending most of a day
figuring out what to do about
soaked binoculars - I managed
to get into the field 3:45 - 6:00pm.
I went on several of the shorter
trails on the Hollywood Garden
proper. The trails traverse patches of
intact forest & cleared areas overgrown
with ferns.

The most common migrant I
saw was Black-throated Blue Warbler
of which I saw several ♀♀ (I
saw a very tame ♂ - which hangs out
near the porches, to the cabins - it
blows "Neophobie" pretty badly - it
came up next to me & ate some
Berries.

I saw several B+W, & Ovenbird, &
I Parula.

Common residents include - Whitehead Thrush,
White-eyed Thrush (2), a whistle in
the evening that I take to be

Red-throated Solitaire
Jamaica Woodpecker
Belted Finch
Stripe-headed Tanager
Orange-gut
Belted Kingfisher
Yellow-shafted Grosbeak
White-eyed Vireo
Arrow-headed Warbler (a few)

January 11

I hiked on the very local trails
in the Hollywood land, 645-1030
from 1100-900 I went up the
ridge across the main road to
Woodcutters Gap

I saw two WFW on the
local summit trail. One I saw
briefly - it ruffled two dead fern leaves
the second I saw after I waded
into first undergrowth & stood quietly -
it then came flying in. I got
a lot of foraging data on tape

It hung out in Tree Ferns a lot -
probing at old fronds, sitting dead
fern leaves & probing at dead curled
leaves caught up at the base of the plants

I saw 3-4 Black-throated Blues

Both WFW were solitary

2 ovenbirds, 1 Yellowthroat
no Redstarts.

The trail up to Woodcutters
Gap goes through forest all the
way 1.5 miles or so.

I saw 2 pairs of Neospiza
(you can hear them foraging at
epiphytes - one finished with an
epiphyte & dug around at bark
I also saw a Crested Quail Dove &
a Jamaican Lizard Cuckoo

On the walk I saw perhaps
6-7 B.T. Blues (all ♀♀!) 3-4
B.T. warblers, a Yellowthroat & one

the way back I saw a
Swainson Warbler - heard briefly in
the trail.

Now, as for worms. I
got good looks at 3 - but
forgot data briefly (1 minute) -
only one. 2 - others were
30' & 10' up in "Knops"
trees & down immediately.

I'm pretty certain I heard a
saw flicker, at 2-3 more.
[The reported sight notes seem
to be distinctive - like Mr. & Roscoe.
This but, me up to 19
WEN (but data on only 9).

I will try the trail again tomorrow.

June 12 - (W. & R. & C.)
Trail survey
Blue Mountains

35 3mm green spider - 1b

30 " " "

60

50

80

70

30 3mm green spider - 1b

5 4mm " "

40 " " "

40 2mm wasp 1b

50 3mm wasp 1b

50 80

2mm green spider 1b

4mm " 1b

70

50

75

10

30

10

10

15 -

1000

5mm green spider 1b

3mm " " "

3mm spider

80

50

3mm green spurt

80

70

120

60

4mm green spurt 1b

50

3mm

70

1500

60

3mm green sp 1b

2mm

120

2mm green spurt

100

50

10 -

2 x 4mm green spurt 1b

40

100

230

40

110

80

3mm green spurt 1b

110

2mm green spurt 1b

50

1550

75

120

70

20

120

3mm green spurt 1b

80

3670

40

21/1000

January 12 - Hardwar Gap - Jamaica
700-1800

I hiked up ridge trail to Woodcutters
gap 700-1200 & went beyond on
trail to Catherine Peak for another hour.
The fog came in so I started insect
counting on the way back. I
came back by a trail from
Woodcutters Gap to Green Hill.

On the hike I saw no less than
25 Black & white warblers, but only
2-3 ♀ B.T.Bs. The slope of
the ridge towards Green Hill is
decidedly shubbier & in the area
where the trail goes through
wet shubbery I saw 3-4 ovenbirds
(the ubiquitous 2-3 yellowthroats in
the Fern Banks).

In addition I had an adult ♂ &
"young" Redstart.

I'm getting a bit confused
about Swainson & Worme's
Warblers - both have loud

explosive chips & the repeated sect-sect-sect.
I actually saw 5 wormers &
4-5 Swainsons today, with
a couple of unidentified loud
chippers.

The Swainsons came out boldly
to pushing & sit on logs near
the trail looking at me, - but
of course I never see them
forage.

I found the wormers today
by listening for the flight
notes. I got foraging data
on 3 wormers (all this is
on tape).

The first was probing at ^{small} dead
leaf or fern leaf - the other 3 -
on the "backside" of the mountain
checked mainly twigs & branches &
a couple of small leaves.
only 1 of the 5 was associated
with other birds.

As usual they turned
quickly & nervously & dropped

away into understory upon
disturbance never more to be
seen.

I saw several Crested gnat Doves -
2 of the Ruby-throated Solitaires -
a Lincoln Oriole (back stopping)

lots of Arrow-headed warblers,

& W.C. Thrushes, Juncos, & J. W. E. red
Vireos.

January 13 Inland near
Blue Mountains

Ferry Glider Area

75

75

50

100

90

40

90

25

100

55

45

70

100

60

62

60

1000

55

41

40

20

40 - 4mm gas sprayer 1h type A

90

40

30

10

4 spittle bugs 2mm

30

100

80

100

1700

80

21

21

82

115

60

10

2080

January 13 - Hardware bp

⁷³⁰⁻²³⁰
It was a mainly dreary day that followed a windy night. Mist came in & out until about 2:00 when rain poured down. I conducted the live-bait insect

survey & went up to the top (hardware bp). The

vegetation was very wet & I didn't go on grassier trails.

Basically I saw no

WEWs. I saw fewer

birds in general (5-6 B+W Warblers)

1 ♀ BTB.) B-t I

did see quite a few (5-6)

Swainson's Warblers

January 14 - Hardware bp

I worked up some trail.

At beginning of trail (to

just beyond Fairy Glades)

I collected dead leaf samples

(4)

In general Ored leaves are quite scarce & it took me 100-200 m to complete each transect. The results indicate that leaves are small & have relatively few arthropods as well, from Perry Glades up. I observed birds. Once again I saw 5-6 Swainson's Warblers, 1 Ovenbird, 2 Redstarts, & 3 - 100 ft km - 3 Worm-eating Warblers. I actually got close on 2 of them. (On the first ridge top) whereas the third ~~was~~ dropped into fern undergrowth upon seeing me. 2 in another Swainson's Wood Warbler as well.

I left at 2:00 (100-2:00) & to drive back to U.S. Buff Bay

January 15. I went to the window Easter 715-1245.

It was nice all morning but - began to rain as I left.

I went to end of small road - as on my last trip - but I walked a different trail which ~~descended~~ descended by several hillsides & again across to disturbed very vegetation as well as more mature forest.

I found 9 WEW - all but 1 were in edge situations - but one was up in the canopy of taller forest (until near line disturbance). See tape transcripts for more notes.)

In addition to the Wormers I saw 4-5 Ovenbirds, 6-7 Purple Warblers, 15 Black & white Warblers, 1 ♂ + 3 ♀ BTBs, 2 Redstarts, 4-5 Yellowthroats.

page
I also saw Black-bellied Parrots,
& several Chestnut-bellied Cuckoos (there
seem to be an entire lot of these) +
1 Jamaican Becard.

January 16 7:30-12:30

Windsor (Cove) Area. On this
trip I parked at Windsor
Great House. I walked up
trail towards Cove - it was a
beautiful day. The first bird I
saw when I hit the forest
edge was a WEW. The
trail I took bypassed the cave
(which I did visit) + went
along a ridge in undisturbed
forest + downy along a ridge.
Not until the end did I
get into a valley with more
edge vegetation. I still saw 7 WEW
many in little disturbed places.

Dead Leaf Samples collected
On trail to Catherine's Peak
January 14 1984 - clear-to
misty 8:00^{am} - 1:00 pm

Sample 1
Leaf size

4	4	4	3	3
3	2	4	3	3
1	2	2	3	4
6	3	2	8	4
4	4	5	4	3
4	5	3	4	3
2	1	3	3	3
3	4	3	2	1
2	3	4	2	0
3	10	4	2	Insects
3	fern-10	4	1	1.5 cm cricket
3	3	3	1	4 mm cricket
3	4	8	1	1 cm centipede (fig)
1	4	8	4	3 mm } bug
4	3	4	3	4 mm } bug
5	3	8	1	2 mm spider
1	3	4	1	6 prey items/100
	4	4	1	4 mm cricket (cave)

Sample 2

4	3	1	3
4	3	1	2
2	3	4	2
3	1	1	2
2	4	1	2
4	4	2	1
4	3	2	1
4	1	3	
4	1	3	
3	1	3	
2	1	3	
4	1	3	
1	6	1	
1	7	1	
3		3	
3			

Insects

3mm coad

3mm spider

4mm hemiptera

2 x 2mm hemiptera

2mm spider

4mm cricket

3mm mite

4 prey items/100
(cecs)

Sample 3

10"	4	5	5
3	2	5	2
4	2	4	8
3	2	4	4
4	1	4	6
4	8	4	4
4	3	4	1
1	1	4	4
Prm	1	2	3
4	1	2	3
2	3	3	2
2	3	3	2
3	3	2	3
2	3	2	3
5	3	2	3
3	8	1	3
3	8	1	2
2	6	1	2
2	3	5	2
2	3	5	2
		4	2
			4

Insects

1cm cricket

1cm roach

4mm cricket

3mm spider

3 x 3mm hemiptera

3mm weevil

3mm cricket

1mm cricket

2 x 2mm spider

3mm leucis?

8 prey items/100 (cecs)

Sample 4

4	4	3	5
41	4	3	4
1	+	3	7
3	7	1	3
+	+	1	3
3	3	1	2
5	1	1	3
3	1	1	}
5	1	3	2
5	3	1	3
1	3	1	}
1	4	1	
2	4	3	
3	4	3	
2	4	+	
4	4	3	
+	3	3	
1	3	3	
1	3	4	
5	+	1	
5	4	4	
5	2	4	
1	2	4	
	2		
	2		

1700

8m2 Coaches

Comm.

4 mm 1 each sample

7mm silver fish

Sam. Sader

7 mm Wasp

Значит

~~From Creek~~

$$\frac{5}{2}$$

Sample 5

1	1	5	3
1	1	4	3
4	1	4	3
3	1	3	3
3	3	3	1
4	4	3	1
3	8	4	1
3	3	4	1
7	2	3	1
3	4	2	1
3	5	2	
9	4	1	
3	4	8	
4	3	1	
1	3	3	
1	1	1	
7	3	3	
3	3	3	
1	4	4	
1	4	4	
1	8	4	

7mm Crochet-

From we, p

2mm spider

2mm base?

1/2 pay

Summer Hardware Gup

Total	pay	B	long pay
		6	2
		4	0
	4.8/100 leaves	8	2
		5	2
		1	1

total entropod 8.4/100 8, 8, 14, 8, 4

total Orthop 3.0/100 leaves 2, 2, 5, 5, 2
 cecropia 1 0 0 0 0
 D.L./100 leaves 1, 2, 3, 1, 1
 spines 1.6/100 leaves

Cecropia	total	line
10	5	
12	5	
17	6	
9	1	
12	3	
5	0	
12	2	
13	3	
	2	

$$\begin{array}{r} 12 \\ 9 \overline{) 110} \\ \underline{90} \\ 20 \\ \underline{18} \\ 2 \end{array} \quad \bar{x} = 12$$

$$\bar{x} = 3.9$$

January 16 continued

I got some data on all but de!

I saw about 10-12 Bthwobblers,
 3 Perches, 1 ♂ + 3 ♀, BTB
 2 Yellowthroats, 2 ovenbirds,
 2 Redstarts.

Intensify Roadside include:
 R. Fox-tailed Flycatcher (white
 aspen looking bird), L. B. Lichoo,
~~Black~~-billed Parrot (Red wing
 flycatcher), J. Beard Blue Mtn,
 Vireo - White-eyed Thrush

Olive foliage
Cookpit country

1/17

Forest locust

105

55 4 mm green spider lb

100

85

80 4 mm thin spider lb

70 3 mm thin spider lb

100

60

670

30 2 mm spider lb

40 2 & 2 mm green spider lb

40 2 mm green spider lb

200

70

95

1170

40

50 4 mm green spider lb

60

56

80

1000

65 2mm bl. spider 1b

80

100 4mm dark spider 1b

100

30

20

1900

200

35

1mm green list spider 1b

72

105

140

4mm thin spider 1b

20

2500

vine tangle

80 1mm spider seen 1b

100

40

90

130 2 x 1mm spider 1b

85

80 2mm green hairy asp

580

3mm thin spider 1b

120

green
4mm cecid. nymph 1

10 4mm green hairy spider 1b

110

120

1000

130 15+ virginat white hump in nest

160

100

140

1530

100 3mm size spider

140 - 3mm green hemipen lb

46 3x 3mm hemip lb
under ① for the dark

70 3mm hemip lb

200

2080

50

170

135

70

2500

40

110

20

Bocot

40

200

60

10

100 - 3mm thin spur 1b

3040

200

100

100

3mm green spur 1b

75

4mm thin spur 1b

110

3620

70

9mm thin spur 1b

3mm seen spur

100

3mm white wing at hump 1b

100

30

Recall

90 (8mm Fulgond) 1b

1mm spur 1b

4000

100 - 1mm red + yellow spur 1b

160

4mm spur 1b

100

100

0

150

150

70

2mm seen spur + 1b

100

125

20

16 (1mm/5000 - 100)

#3

Cockpit (conty) Prt Lanes

6	3	3	3	8
4	2	2	3	5
6	3	4	4	6
4	2	5	3	4
4	1	2	3	4
4	1	7	3	8
2	5	5	5	7
2	5	4	5	5
4	6	4	2	5
3	5	3	2	12-ccr
5	4	6	2	insects
4	3	4	1	6mm cricket
2	1	1	3	1cm cricket
6	1	8	4	2x 6mm spider
3	1	3	3	2x 8mm beetle
5	1	8	4	8mm spider
5	1	8	3	4mm spider
4	5	5	3	4mm spider
3	5	3	4	2x 4mm mite
8-ccr	4	4	4	3mm spider

B/5

2mm rock nymph
5mm whip
3mm rock
3mm rock nymph

Sample #1

8m	8	3	3
8" crr	10 crr	4	3
3	6	12 crr	3
1	5	3	3
1	5	3	2
3	5	3	2
3	5	3	4
5	8 crr	3	3
4	1	5	insects
4	1	3	1cm rock
5	2	3	6mm rock
8	3	3	5mm katydid
8	4	2	5mm katydid
5	4	3	1mm mite
5	3	2	6mm spider
8	4	4	3mm rock
10-ccr	8	5	4mm rock
5	3	2	4mm rock
4	3	2	3mm spider
5	4	2	2mm rock
4	5	3	2mm rock

B/5

2mm spider
3mm rock
2mm rock

Cockpit County
Sample 5

4	6	3	3	2	
3	5	3	3	2	
3	8	3	2	3	
3	5	4	2	3	
3	4	3	2	3	
4	6	8	1	2	(12/3)
3	4	8	3		
4	4	4	3		
3	3	3	3		1 cm cricket
3	4	1	2		7 mm roach
7	2	5	2		3 mm roach
4	2	5	2		3 mm roach
3	2	3	2		3 mm roach
3	2	3	3		4 mm roach
5	3	3	2		3 mm roach
4	3	3	2		2 x 2 mm roach
4	3	3	2		9 mm spider
3	2	2	1		3 mm spider
3	4	2	1		3 mm spider
8	3	2	2		2 x 2 mm beetles
4	3	2	2		7 mm spider
6	3	3			3 mm beetle
6	3				3 mm wasp
					5 mm mite

Cockpit County
Sample 6

4	7	7	5		3 mm spider
3	12	5	3		3 mm spider
5	5	4	3		3 mm spider
5	4	8	3		3 mm spider
3	2	4	4		3 mm spider
3	6	4	4		9 mm cricket
4	3	3	4		2 mm spider
3	3	2	1		1 cm beetle
3	2	8	4		1 cm beetle
3	2	6	3		9 mm dragon
3	3	5	4		6 mm beetle
3	3	4	4		2 mm roach
7	3				
2	3	3			5/0
2	2				
2	3	3			
2	4	2			
2	4	2			
3	4				
3	4				
3	5				
3					

Sample 7

[illegible]

② Type Transcription

January	4	F	No data	* Rejected
---------	---	---	---------	------------

9

4 - Δx_{10}

Group 5 - we were the filler - no idea

Plg R. & B. 26f

WFW - no data - Red Hat Hawks
in 1st - 1st year
in 2nd - 2nd year
Forest

January 7 - Windsor Ave. 1st yr

2 - 100

12

32-1-1

$[d_{21} \quad d_{22} \quad d_{23}]^T = [0.2 \quad 0.1 \quad 0.1]^T$

Neanderthal period 3 4' and 5' below

Substance

3' untranslated base

4. no. of observations

5. - dense untraced 20'
 " 30'
 poked into 88" closed helix
 poked dried leaf
 2-3 min probe into 7-8
 8" dead curled leaves

6. upididam (Untraced) 3" ~~PLC~~ 3"
 2" PLC 4"
 30' →
 travel = 10 sec
 hang + poke DCL - \oplus ?
 something
 hang 3" dead leave 4" sec
 hang 1" travel
 dead leaf probe
 flight 20' sh, fl 10'
 (17')
 hang upside down 3" \oplus 15"
 DCL
 13" { sh fl 10' fl 10'
 travel
 diving sideways 3" DCL

7. Dense VT 30'
 Travel = 5"
 probe dead leaf 8"

June 14 Hardware Gap

1. Trail to summit 28 7'/25' minute
 Dried fern leaf x 3 - hanging down
 80" (crittly a lot)

2. \rightarrow \oplus Pk.
 Pk. Front Sideways
 3'/25' Tree Fern Front
 Tree Fern leaf 3" } sideways
 hanging tree " " 3"
 Fern unwinding ?
 Fern Front \oplus 6" \oplus 6" speak down
 Fern Front Travel = 3"
 Travel = 3"
 Fern Front 1/2 3"
 travel = 10" \oplus ?

watched it prior to trip
 Tree fern front sideways (branches) 2 cm each
 paying + spy into flicky area flying

Fern frond

Dead Fern leaf (normal perch)

Fern branch upside down

3" dead leaf ^{no trail} (see poke)

sh sh fl 4" sh sh 3 feet

fl 10" sh sh fl 5" 3

Trail = 32 sec

upside down 3" PCL poke

Dead fern leaf - normal perch poke

1 sec trail

Fern frond poke 1"

PCL (3") poke

PCL ^{3" trail} 3" poke

2 sec trail

PCL 3" poke

Trail = sh sh sh sh (tree fern base) = 21"

hang down + poke PCL

sh sh ?

Trail sh, sh sh sh sh = 15 sec

Dead fern leaf 3" PCL

Dead fern leaf 5" ^{PCL} rattle

hang down ↗

sh sh sh sh 3

3 20/25 - no foraging

4 10'/35' lean + peek at roughness +
1 cm twig
(Brewer + other birds)

January 12 Hardware Gap (to hardware gap)

1. ~~No data~~ to probe dead fern leaf (normal
at base of tree fern perch)
20/35-40' Solitary

2. 25/

6

checked 5 live twigs

hang over successively like
Brewer

perpendicular to branch

60' watch - no close neighbors

(within surface to twig)

3 wood + tree gap

Noted

4

25/35-40'

Perse UT

twigs, loose stick (live bark)
pull

Dead ended leaf (hang down) into
3" one end at leaf
3 sections

Dead ended leaf 3" →

5

25/45'

Open - moderate vegetation

twigs } leaning
twigs }
twigs }

3" dead branch end - bark - gyp hang
pick up bark upside down

January 14 Herdler sup

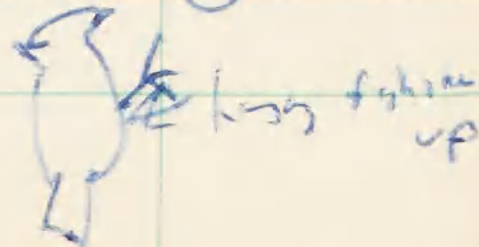
1. Pery Glade - wood, the sup

house group

hanging upside down

10 sec { 10" x 1" horizontal
dead leaves
3 sec { large tree

drop down



2

Upside down - loose twig

large horizontal branch (dark hollow)

tip of 2 small twigs (upside down)

25/35"

Sideways pick on end of (with
branch

pick at wire
pick at wire (Bramble
8 sec travel sh.

pick at wire
pick at wire
of 5"

chopped at bark of smoking

(with Arrow-headed hollow)

1/17 window one on

1. Put - Huddle edge - peak + DCL 4"
fly off
(creaky up DCL)
spring

2 low Put 5' - no foraging alert

3 Put 2T/ loose nest
glide VT 1 sec
hang 3" under bar 4 sec trail
3 sec

Dec 3" 3 sec
trail = 4 sec
Prod Flat foot 3 sec
trail = ? 10 sec +

clustered live tails peak 8 sec
sh sh sh sh ? x
rattle 3" dead leaf 2

trach
sh, sh, sh = 4 sec trail
low hie peak 10 sec
sh, sh, sh cr, cr = 11 sec trail
peak at top more 3 sec
cr, cr = 10 sec trail

hang up peak down - cluster at top 10 sec
cr, cr, sh, sh = 2 sec
Vie peak 10 sec
sh, sh, sh L 10 sec
DL 5" p-11

hang up peak down DCL
Rattle dead leaf from top 5 sec
Rattle + peak 4" DCL 5 sec

Rattle & hang on DL 10 sec
Rattle from top (leaving) 15 sec

hang down + peak DCL - 4" 20 sec
drop, drop sh, sh drop 20 sec trail
sidings hang similar
(?) peak top side down 56"

sh (4 sec trail)
hang up peak down DCL 52 sec (+)
b. 1

cr, sh, sh, flight 10' 40 sec
trail

DCL 2" probe 4" (+)
upward down 8" sec trail

3" DCL 3 sec (+)
3" DCL 3 sec (+)

5" dcl bottom, hang down 50 sec
next to live tail up peak down but time
up peak down

1/17 transcript (out of order)

(1) 25' VT edge → open tree (Chy Luv)

T = 5 sec

1" DCL probe

T = 4 sec

3" DCL probe

4" DCL h, + probe 3 sec

3' DCL 3 sec

10

(2) 3' DCL hang 4 sec

3 sec
3 sec
1 sec
1 sec
1 sec

Branched Fork hang sideways hang 13 sec

T = 12 sec (sh, cr cr, J fl)

3" DCL Knuck down 3 sec

3" DCL 3 sec peak

sh ~~WA~~ T = 7 sec

Branched h + peak = 3 sec

8" hang down 10 sec

8" DCL hang side 7 sec

T = 4 sec

(7)

large

T = sh, sh

Branched ped leaves 5 sec hang

(3) ~~10~~ Vine h, 10' up 1 sec Arduous

T = sh, sh, 6 sec

DCL peak 3 sec

(Vine - hang 3 sec) in mm

T = 7 sec

DCL 5" 6 sec

T = 7 sec

3" DCL = 3 sec

T = 5 sec

Vine peak h, 2 sec

2" DCL peak 1 sec

6" DCL 1 sec

Knuck down 6" DCL 1 sec

upside peak 2" DCL hang down

T = 12 sec

2" PCL peck 1 sec.

○ Drive wire 15' up - into broken cavity

④

T = 3 sec

two peck

Line of peck 1 sec

T = 4 sec

two test hit the peck 1 sec

fl' 11-1' = 15 sec

1" OCL 1 sec peck

"plying" - claw at thick foliage"

T = 8 sec

2" PCL pull 2 sec

5" yellowed "live leaf" 1 sec - back up to it

T =

⊕

Open understory

peck 1" PCL 4 sec

peck 3" PCL

^{T = 1 sec}
plucked dead leaf 3 sec

hook in ^{vine} and 2 sec

T = ~~5 sec~~ 10 sec

peck at loose twig 1 sec

T = 10 sec

Demise (choly leaflet) - peck at 5 sec

" 3 sec

T = 5 sec

plucked leaflet 3 sec pr ⊕?

sh, sh, fl' 11-1' 10 sec

peck 3" 4 sec

sh 4 sec = T

hang down a cherry seedling on twig

⊕

peck 2" PCL 1 sec

T = 3 sec

hang + peck 3" PCL

hang peck 2" PCL 5 sec

hang + probe cluster 5" PCL = 12 sec

↗ rock ⊕

hang + peck 2 sec

T = sh, fl 3' len 1 cr
hanging upside down = 25"
fl 3' x 3

DCL 3" 3 sec

DCL 3" 3 sec

T = 5 sec

pouch at petiole of leaf? 10 sec
↑ brown spot in leaf
3" DCL ↑ ?

T = 3 sec

pouch ~~at~~ dead underside of leaf 3" 3 sec

8" cluster hanging (grub in A) = 15 sec

(6)

25/40
open
pouch

DCL hanging upside down 3" 2 sec

DCL 1" 1 sec

T = 3 sec

pouch DCL 3" 4 sec

3" DCL - pouch

3" DCL hanging upside down 3 sec

3" DCL 3 sec

3" DCL 2 sec hanging down

3" DCL 2 sec gone

3" DCL 3 sec

pouch 3" DCL

hanging upside down + pouch 2 sec DCL 1"

T = 3 sec

3 curled leaf pouch (hanging upside down) 2 sec

3 sec = T

3" DCL pouch

T = 10 sec (hanging upside down)

pouch 1" DCL 1 sec

T = 3 sec

4" DCL pouch ?

(7)

found
dense at
10'

T = sh, sh

DCL 3" pouch 1m 20 sec

T = 15 sec

hanging upside down 7" DCL

flm

T = 8 sec

20'
open

pouch frame below 3" DCL 3 sec

" " " 4" DCL 2 sec

T = 1 1/2 sec 3" DCL cluster 4 sec

hanging off same cluster →

T = 1 sec

loaded on 7" leaf cluster & knocked down

7" leaf cluster hanging on side 20 sec.

T = 2 sec

8" DCL peak 2 sec

1" DCL peak 1 sec

high upstroke down 2" DCL (in line) 10 sec

peak at 1/2 DCL ?

T =

⑧

Peak 3 sec left 2 sec

T = 10 sec

Peak 1 DCL 1 sec

T = 1 sec

Peak 4" DCL 12 sec

high upstroke down 12 sec

DCL 3" gap 4 peak 5 sec

long

T = 2 sec

DCL = 3" high + = 5 sec

peak at bottom

⊕

antipollu
lens

T = 1 sec

peak 1" DCL 1 sec

3" DCL 1 sec

T = 4 sec

peak at bottom 5" DCL 7 sec

T = 400 sec

11 DCL peak ?

high upstroke down 5" DCL 6 sec. ⊕

T = 8 sec

peak at ? left ?

T = 4 sec

peak at 1/2 of 4" low 6 sec
+_r

1/1T window edge continued
by 2000 left next to 2000000000 35-4000000000 more

T = 5000

pull one twig (1000)

T = 1500

pull at bottom PCL 4" 1000

peck PCL 3"

PCL 4" big stick = 12000
his upside down

T = 10000

big upside down PCL 4" 10000

(4) 20' up PVTank No Run

5 forest 35'

peck at twig 3000

T = 20

peck PCL 3" 1000

upside down on branch - pull on twig¹⁰

T = 19000

Peck at line twig
~

T = 12000

probe at base of his clustered leaves ?

probe 8-10" PCL

probe 4" PCL 6000

T = 5000

hang down peck at cluster 1" PCL

ripping at line - using feet

60000

hang down 8" PCL

peck at top 5" PCL - 1000

peck cluster 3" PCL 1000

hang sideways peck 3" PCL - gap as 1.7
8000

1/1 + ⑤ continued 30-40/60-65

~~30~~ Vine irregularity - probe 10 sec

Vine peck 2 sec

hang down & probe PCL 5 sec
(rip)

T = 5 sec

hang down probe PCL 2 sec

peck PCL 2" - 1 sec

5 sec total

peck PCL 2" - 1 sec

T = 2L

hang down peck PCL (+?) chased slightly ④

PCL 7" peck from below 15 sec

T = 12 sec

goes at bark?

far off hang upside down & move

peck at vine irreg. hang

T = 3 sec

peck at PCL 3" 15 sec.

T = 8 sec

peck 3" PCL 15 sec

peck 5" PCL 15 sec

T = 15 sec

④ ↓ 10 sec total
out of?

hang upside down 3" PCL

⑥ 25/50' base

⑦ a remnant hang upside down ④
12"

25'/50'
mod VT solitary

from top 120 sec
upside down on side
S, cl, up
right back up

8 - 25' DUT

9 2 small 3 peck
PCL
40' DUT

T = 3 sec pcc

poke 2" leaf 1 sec

T = 1 sec

poke 4" to APCL 1 sec

hang up 4 sec

T = 1.5 sec

poke 3" pcc from below 3 sec

T = 7 sec

poke 3" pcc 10 sec

poke 2" 2 sec

T = 10 sec

7

T = 3 sec

hang on bottom of tree. last 1" ~~10~~ 5 sec

" " " " " "

upside down on petiole ↑

lighten up & crawl on leaf surface

apply into leaf

top of leaf goes into it

grips into ~~the~~ crevices in leaf

(120 sec)

sideways hang 3" ^{pcc} leaf 4 sec

T = 3 sec

poke pcc 4" ?

twigs - hang upside down + poke - 2 sec

T = 22 sec

4" pcc - hang sideways 3 sec

T = 9 sec

poke down 4" pcc 3 sec

T = 1 sec

1/10 hang down grip into 4" pcc 3 sec

① T = 10 sec

30' / 50' hang upside down on clustered trees

10 sec = T

hang upside down on old branched leaf 5 sec

T = 2 sec

hang upside down on twig

Branched Branch

hang sideways + poke pcc 7" - 2 sec

T = 12 sec

hang sideways on Branched Branch 3 sec

WEL ?

probe den PCL 3"

Epiphyte Red (over) 2 sec

20" lens on
Epiphyte

Old Epiphyte lens = 180 sec
at base of

high side up, 4" PCL
5" PCL

poke into bark

poke 3" PCL

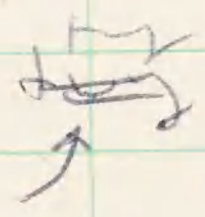
peer at 2" diameter branch

T = 3 sec

peer at twig 1 sec

high up side down + poke PCL 3" 4 sec

T = 3 sec

high + probe at 

one-rod 3" Hove

poke PCL 2"

poke PCL 4"

T = 5 sec

probe - PCL 1" 3 sec

T = 5 sec

probe PCL 10" (hang) = 15 sec

T = 10 sec

poke 3" PCL 1 sec

poke 3" PCL 3 sec

T =

(3) vertical line last

probe 3" PCL from top 2 sec

H/40'
put

high 1" PCL 3 sec

probe at bark of twig 5 sec

T = 3 sec

peer 4" PCL ?

probe 4" PCL 13 sec

T = 1 sec

high from unit

T = ~~700~~ 18 sec

high + probe 2" PCL

probe 3" PCL

T = 14 sec

probe in clustered live foliage 3 sec

T = 12 sec

Branches dead leaves 6 sec

(4) - long 3" PCL 2 sec

hy + pick 5" pcc 2 sec

T = 10 sec

hy + pick at top 2 sec

hy + probe pick at bottom 4" pcc

T = 7 sec

pick + size bottom at 3" pcc 3 sec

T = 6 sec

pick at residues in vine ~~2 sec~~ 15 sec

T = 1 sec

pick at dead top 6 sec (+)

(5) PUT

20'
Mixed
Flock

pick at vine

12" (unpiled) 10 sec

2 sec T
probe bottom pcc 3"

probe pcc 2" 3 sec

T = 2 sec

~~probe into mass~~

3" pcc long + pick (+)?

15 sec

pick at top 2 sec

T = 3 sec

glan clustered vine foliage

T = 6 sec

pick at vine 3 sec

T = 4 sec

pull at vine 2 sec

T = 10 sec

pick at vine 1 sec

T = 10 sec

pick at vine 1 sec

T = 6 sec

pick at 2" pcc 1 sec

T = 7 sec

pick up plant in Bill + Sim. hit
hitting at it 10 sec.

(+)
worm?
len

T=10 sec

hang upside down

DCL 2" 3 sec

T=8 sec

pick DCL 4" 2 sec

hang on ~~3 sec~~ DCL 3 sec

hang on pick at 1" DCL 3 sec

⑥ pick at leaf?

so far 243
minutes

① Transcript June 18

① bark

pick ~~8" DCL~~ (rip) = 40 sec

T=?

glean vine 3 sec

glean vine 2 sec

T=2 sec

hang upside down 10 sec

T=3 sec

hang upside down on wire

T=4 sec

hang & pick at

hang & pick 3" DCL 2 sec

T=4 sec

hang upside down pick & peer at wire

hang upside down pick at wire

head on = 4 sec

T=1 sec

hang & pick at densest leaf 6" 2 sec

T=2 sec

hang sideways grip 4" DCL 3 sec

pick at 3" DCL from below 3 sec

pick into 4" DCL 2 sec

T=

sideways hang 10" ~~2" DCL~~ 12 sec

~~4" DCL~~

pick two barks (hammer and grip)

vine bark 2" thick

hang upside down 120 sec

T = ?

pick ~~10 sec~~ vine? ~~DEL~~ 53 = 28 sec.

pick

② pick 4" PCL 1 sec

~~pick~~ ②

checked a Redstart

Uncovering

③

T = 2 sec

pick into top (cruciform) leaf 2 sec

25' put

T = 2 sec

pick into 2" PCL

pick distal 3" PCL 2 sec

pick 5" PCL 1 sec

T = 18 sec

pick 2" PCL 2 sec

pick 2" PCL 2 sec

pick from below 3" PCL 1 sec

T = 5 sec

high + pick it + high 1 sec

T = 2 sec

pick at 5" PCL 1 sec

T = 16 sec

hang down check 4" PCL

hang down check 5" PCL ~~flash~~ → ④ ? 5 sec

T = 13 sec

high pick distal 4" PCL 1 sec 3 sec

T = 6 sec

pick at 5" PCL from below

T = 8 sec

high from vine + pick (close to cr. 1) but = 8 sec

T = 2 sec

waited under ~~that~~ dead leaves on branch 1 sec

T = 10 sec

pick 5" PCL

T = 2 sec

pick 2" PCL 2 sec

T = 2 sec

pick 3" PCL

T = 5 sec

knocked down 2 (once)

pick 2" PCL

T = 4

pick 3" PCL 4 sec

hanging 15 sec

pick 2" PCL 3 sec

(+)
sm-y

fling bark of branch 2 sec

T = 4 sec

poke at twig 8 sec
run all along twig

(4)

pick 1" PCL 2 sec

3T/4

T = 3 sec

py

pick 1" PCL

→

T = 1 sec

pick 4 PCL 1 sec

h-y pick 1" PCL 6 sec

T =

h-y 8" PCL ?

h-y 3" PCL 2 sec

h-y 1" PCL 3 sec

T = 2 sec

pick PCL

T = 15 sec

pick 1" PCL 5 sec

pick Diamond leaf 1 sec

pick bottom 5' up 2" PCL
(teary, +)

pick at bark

pick PCL 4" 3 sec

check PCL 4" 1 sec

T = 1 sec

py flat leaf on green leaf 1 sec

py into 3" PCL - grab hang &
grabbed lat 8 sec

T = 6 sec

pick 2" PCL 2"

T = 15 sec

pick 1" PCL 2 sec

(see p. 101 filing)

2/1/7 transcript continued

④ 3 sec trunk
pass at bark
pick 2" PCC from above 2 sec
pick 2" PCC from below 2 sec
T = 7 sec

pick 3" PCC from below?

4" PCC 3 sec

T = 4 sec

1" PCC

pick at bark 3 sec

⑤ pick 1" PCC

T = 5 sec

25'
open
pass
solidity

pick at twig & pick = 15 sec

hang up bark

hang on twig 3 sec

pick 2" PCC 1 sec

T = 3 sec

pick at twig 3 sec

T = 12 sec

pick 8" PCC 1 sec

hang on branch tip = digging ④
20 sec

T = 12 sec

pick loose dead twig 6 sec

hang & pick at twig end 6 sec

hang & pick at 3" PCC 2 sec

T = 7 sec

pick twig & pick at twig
(Not Nuthatch-like)

40 sec

④
~~cricket~~
1 sec

T = 3 sec

pick at yellow - "live leaf" 1 sec

pick at twig 2 sec

pick at twig 1 sec

T = 1

T = 1

pick at twig

2 cm branch bark strip 7 sec

T = 3 sec

twig end peer 1 sec

T = 7 sec

twig end peer 2 sec

F = 20

peer at twig

T = 5 sec

peer head } 4" pcc 8 sec
high on lat }

T = 5 sec

peer at twig tip 3 sec
twig tip

T = 30 sec

peer 1" pcc high point down

peer at twig end (+) - small
17 sec

T = 3 sec

peer tip 1" pcc 1 sec
T = 3 sec
peer end of twig 11 sec

T = 7 sec

peer at twig end

(6)

10" pcc ^{high} 5 sec

T = 24 sec

25/40' forest

5" pcc (cluster)

peer

thru down

↓

behind 5

= 35 sec

T = 20 sec

peer + gaps pcc ? (+)
high sidings up side = 17 sec

T = 20 sec

peer 5" pcc from top

high in side 13 sec

14" peer peer at bottom
high on side 15 sec

10" pcc high down
gap = 3 sec
+ 20 sec

peer at twig end 2 sec

T = 3 sec

peer at twig gap into bark
7 sec

T = 4 sec

gape at bark (2 knob)
hang upside down
head down creep } 28 sec

⑦

probe at

in group

Probe

UT

15/30

By Accord- Epiphyte probe PCC
right at base

T = 9 sec

hang down probe 2" PCC 8 sec

reach - probe 2" PCC 18 sec

T = 3 sec

hang down 1 1/2 PCC 5 sec

T = 8 sec

hang down 2 sec? PCC 3"

T = 2 sec

reach 3" PCC 1 sec

T = 1 sec

probe PCC Epiphyte (by) Leafy
right in ~~Agave~~ Epiphyte 30"
15 sec

8 probe at top end 1 sec

T = 7 sec

Probe reach 1" PCC 2 sec

T = 6 sec

reach + probe 2" PCC

hang sideways up at vine bark 8 sec

T = 5 sec

hang sideways on vine

300

643 Dry hts -
 soft
 bottom Anthropus
 (Calypt + Lur)

~~.024~~
~~.029~~
~~.023~~
~~.029~~

sum
 = .28 gm
 $\bar{x} = 0.7$ each

1047
 .050

1042

.075 with b, higher
 C. 2.2

1.7
 1.02
 9m

1/20 Calypt + Lur
 vine tangle

160

65

25 1.2 cm green crabs - 12

25
 80

80

70

165

60

200 4 mm 1.5 flaps - 12

300

1200

250

60 2 mm sp. 12

108

105

106

50

2000

200

3mm sp. 1b

2mm sp. 1b

Thorn beetle beetle - 1b

210

3 x 3mm sp.

1 x 2mm sp.

15/10,000

7/5,000

22,100,000

1/100

O Jan 17, 18 + 20

I have been remiss in keeping my journal - but these 3 days I worked at the Windsor area - working out the trail past the cave. On the 17th & 18th I collected dead leaves & 17th & 20th I collected live leaves.

Jan 17th I went from 7:30 - 3:00

18th

~~7:30~~ - 3:30

20th

8:00 - 3:30

Since I walked more or less a similar route each day \approx 4 km or so, I will give an overview of bird abundances.

First the migrants. Each day I saw 8, 7, 11 WEW respectively. I saw 15-20 Black and white. 5 ovenbirds, 6-8 BTBs, 5-6 Perulas, & 4-5 Redstarts -

I saw roughly 50/50 ♂:♀
BTB's

The most interesting thing
about the wormeaters is
that I saw few before 11:00 am.
I invariably saw more walking
about then out! This isn't an
artifact of lighting conditions since
I've begun to pick them up by their
"content" call - the thin scet-scet-scet
they give when changing position.
Curiously about 50% of the
wormeaters are solitary - with respect
to all other birds - why all the
noise when they fly. Also
interesting - The Jamaican Blackbird
gives similar notes when changing
epiphytes.

The following give some rough
numbers of resident forest birds / day:

Chestnut-bellied Cuckoo	6
Jamaican Berrard	0-2
Red-tailed Flycatcher	6
Yellow-crowned Elaenia	6-8
Greater Antillean Pewee	15
Lesser-headed Kingbird	15
Blue Mountain Vireo *	5
J. White-eyed Vireo	20-30
Arrow-headed Warbler	8
Jamaican Oriole	8
S. H. Tanager	20
Oreosequit *	20

Both these birds seem to do
a lot of dead-end chickering

Monte Bonito 1430 - clear
Open Forest understory

30 3mm green fly 1b
16 2mm hump 1b
43 3mm green fly 1b
60 2mm hump 1b
30 3mm green fly 1b

175
3mm green fly 1b
16 4mm hump 1b
4mm th. spur 1b

25

10 4mm green spur 1b
5mm hump 1b

30 2mm sp. 1b
4mm th. spur 1b

36 2mm fly 1b

240

20

2mm hump 1b

3mm hump 1b

2mm spur 1b

15

3mm fly 1b

70 2mm hump 1b
3mm spur (th.) 1b

55 3mm hump 1b
3mm fly 1b

450

50 3mm green fly = m. r. d.?

25

30 2x 4mm th. spur 1b
3mm hump 1b

25

13 3mm th. spur 1b
3mm hump 1b

510

25 3mm th. spur 1b

307

70 4mm green spur lb

35 3mm hump lb

44 4mm brown spur lb

25

40 3mm thin spur lb
2mm hump

25 4mm thin spur lb

70 3mm "green fly" lb
2mm hump

875

75

40 5mm spur lb - black spur

1000

80 2x 3mm green fly
3mm thin spur

60

75

85 4mm wasp lb
4mm thin spur lb

1275

100

60

22

1500

100

60

20 2mm fly lb
3mm thin spur lb
4mm thin spur lb

60 3mm thin spur lb

1770

100 4mm hump

100

150

2000

80 2 x 3m thin sp w 1b

100

100

50

80

80

60

2000

20 2500 1000

100 2mm

Manta Bunt 1/30 1230 8/10
faint handwriting

180

100 2 x 4mm hump 1b

85

70

3mm thin sp w 1b

100

3mm thin sp w 1b

50

4mm thin sp w

3mm thin sp w 1b

15

100

100

3mm thin sp w 1b

80

4mm thick rough hump 1b

60

2mm hump 1b

62

20

2 x 3mm thin sp w 1b

50

30

1000

(Imm spec. 1A)

כר

(20) 70 minutes

50

170

37

2 x 3mm thin spw's

60

65.

1660

780

50

2ma sp. 1b

100

When this species

2500

130

Elmer

1. $\lim_{x \rightarrow 0} \frac{f(x)}{g(x)}$

100

3rd May 1962

When green space is

110

132-100 North

2500

$1\frac{1}{2}$ m

$$\frac{4}{5} \times 2 = 2$$

S. I.

95

10

910

$$\begin{array}{r} 2 \\ 12 \overline{) 24} \\ \underline{24} \\ 0 \end{array}$$

13/4/54
11/4/54
13/4/54 - 23 total LER

Prof. Ivan Goubay

Dr. Steven M. Head

42/45
1500 (1000)
23/2 3,000 (1000)

Jamaica 32/10,000
14/10/54
35% more

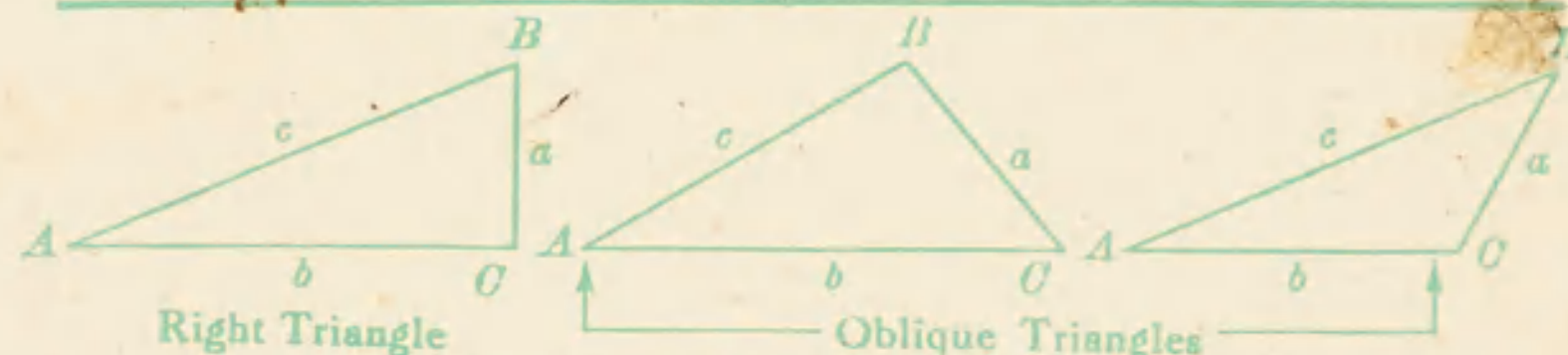
Puerto Rico Republic 74/10,000
12/10/54

1000
130
12/110
1000 (1000)

In 7500 (1000) (1000) LER
93% of
1000 (1000)
1000 (1000)

only one page 75 mm

TRIGONOMETRIC FORMULÆ



Solution of Right Triangles

For Angle A. $\sin = \frac{a}{c}$, $\cos = \frac{b}{c}$, $\tan = \frac{a}{b}$, $\cot = \frac{b}{a}$, $\sec = \frac{c}{b}$, $\csc = \frac{c}{a}$

Given a, b	Required A, B, c	$\tan A = \frac{a}{b} = \cot B$, $c = \sqrt{a^2 + b^2} = a \sqrt{1 + \frac{b^2}{a^2}}$
a, c	A, B, b	$\sin A = \frac{a}{c} = \cos B$, $b = \sqrt{(c+a)(c-a)} = c \sqrt{1 - \frac{a^2}{c^2}}$
A, a	B, b, c	$B = 90^\circ - A$, $b = a \cot A$, $c = \frac{a}{\sin A}$
A, b	B, a, c	$B = 90^\circ - A$, $a = b \tan A$, $c = \frac{b}{\cos A}$
A, c	B, a, b	$B = 90^\circ - A$, $a = c \sin A$, $b = c \cos A$

Solution of Oblique Triangles

Given A, B, a	Required b, c, C	$b = \frac{a \sin B}{\sin A}$, $C = 180^\circ - (A + B)$, $c = \frac{a \sin C}{\sin A}$
A, a, b	B, c, C	$\sin B = \frac{b \sin A}{a}$, $C = 180^\circ - (A + B)$, $c = \frac{a \sin C}{\sin A}$
a, b, C	A, B, c	$A + B = 180^\circ - C$, $\tan \frac{1}{2}(A - B) = \frac{(a - b) \tan \frac{1}{2}(A + B)}{a + b}$ $c = \frac{a \sin C}{\sin A}$
a, b, c	A, B, C	$s = \frac{a + b + c}{2}$, $\sin \frac{1}{2}A = \sqrt{\frac{(s - b)(s - c)}{bc}}$ $\sin \frac{1}{2}B = \sqrt{\frac{(s - a)(s - c)}{ac}}$, $C = 180^\circ - (A + B)$
a, b, c	Area	$s = \frac{a + b + c}{2}$, $\text{area} = \sqrt{s(s - a)(s - b)(s - c)}$
A, b, c	Area	$\text{area} = \frac{bc \sin A}{2}$
A, B, C, a	Area	$\text{area} = \frac{a^2 \sin B \sin C}{2 \sin A}$

REDUCTION TO HORIZONTAL



Horizontal distance = Slope distance multiplied by the cosine of the vertical angle. Thus: slope distance = 319.4 ft. Vert. angle = $5^\circ 10'$. From Table, Page IX. $\cos 5^\circ 10' = .9959$. Horizontal distance = $319.4 \times .9959 = 318.09$ ft. Horizontal distance also = Slope distance minus slope distance times (1 - cosine of vertical angle). With the same figures as in the preceding example, the following result is obtained. $\cos 5^\circ 10' = .9959$, $1 - .9959 = .0041$. $319.4 \times .0041 = 1.31$. $319.4 - 1.31 = 318.09$ ft.

When the rise is known, the horizontal distance is approximately: - the slope distance less the square of the rise divided by twice the slope distance. Thus: rise = 14 ft., slope distance = 302.6 ft. Horizontal distance = $302.6 - \frac{14 \times 14}{2 \times 302.6} = 302.6 - 0.32 = 302.28$ ft.

